

Smilosuchus



Restoration of *Smilosuchus gregorii*

Smilosuchus (meaning "chisel crocodile") is an extinct genus of leptosuchomorph phytosaurid from the Late Triassic of North America. The type species was first described in 1995 as a replacement generic name for *Leptosuchus*

gregorii.^[1] Because of the large rostral crest it possessed, it was considered to be distinct enough from other species of *Leptosuchus* (all of which had smaller and more restricted crests) to be within its own genus. Some studies seem to suggest that *Smilosuchus* is congeneric with *Leptosuchus*, as the enlarged crest could have been independently developed in *Leptosuchus*.^[2] However, newer studies support the idea that *Smilosuchus* is distinct from the type species of *Leptosuchus*, *Leptosuchus crosbiensis*. Phylogenetic analyses suggest that *Smilosuchus* is more closely related to pseudopalatines than to *Leptosuchus* species.^{[3][4]}

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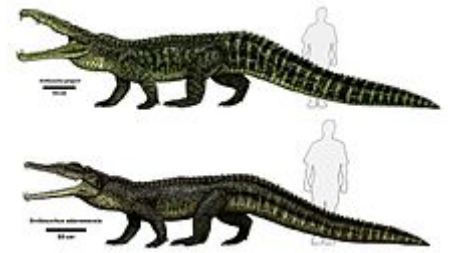
Features

Like all phytosaurs, *Smilosuchus* had the nostrils close to the top of its head. The rostral crest and nasal bulge supporting these raised nostrils was larger in *Smilosuchus* than in many other phytosaurs. Its skull was extremely large, up to 155 cm long, although estimates for the overall length vary from 7 to 12 metres. The jaws are very short and broad and the teeth are heterodont, with large tusks at the anterior of the mouth for impaling prey and more blade-like teeth for slicing flesh closer to the back of the mouth. The tusks are mounted on a bulge at the tip of the snout present in nearly all phytosaurs. Its squamosal processes are short and deep, indicating a powerful bite. This coupled with its large size (it is one of the largest known phytosaurs) suggests that it hunted large prey such as Placerias.^[5]

<i>Smilosuchus</i>	
Temporal range: Late Triassic	
 <div>Skull of <i>Smilosuchus gregorii</i></div>	
Scientific classification 	
Kingdom:	Animalia
Phylum:	Chordata
Class:	Reptilia
Order:	†Phytosauria
Family:	†Phytosauridae
Node:	†Leptosuchomorpha
Genus:	† <i>Smilosuchus</i> <div>Long & Murry, 1995</div>
Type species	
† <i>Smilosuchus gregorii</i> <div>(Camp, 1930)</div>	
Species	
<div><ul style="list-style-type: none">■ †<i>S. adamanensis</i> (Camp, 1930) Stocker, 2010■ †<i>S. gregorii</i> (Camp, 1930) Long & Murry, 1995■ †<i>S. lithodendrorum</i> (Camp, 1930) Stocker, 2010</div>	

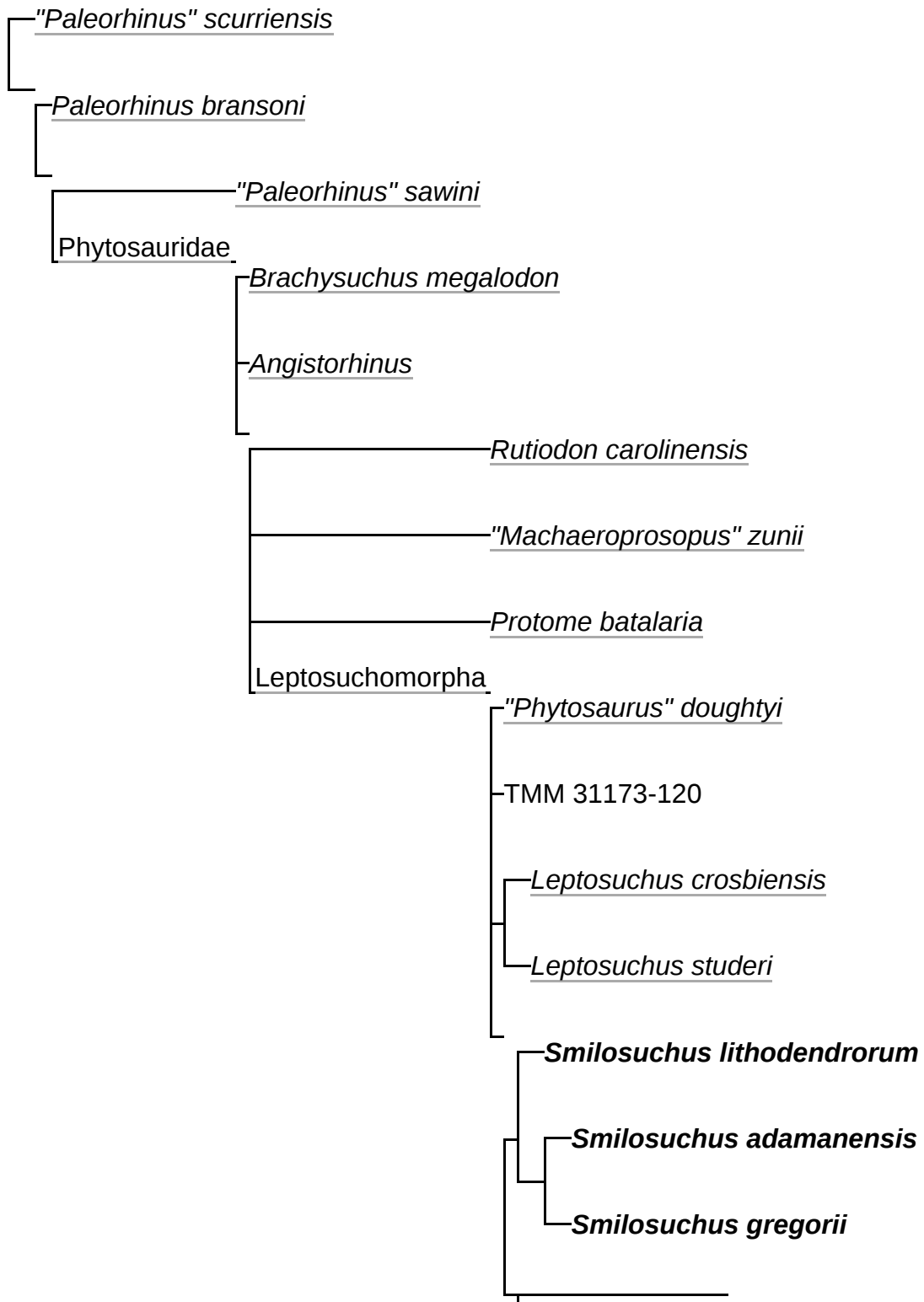
Phylogeny

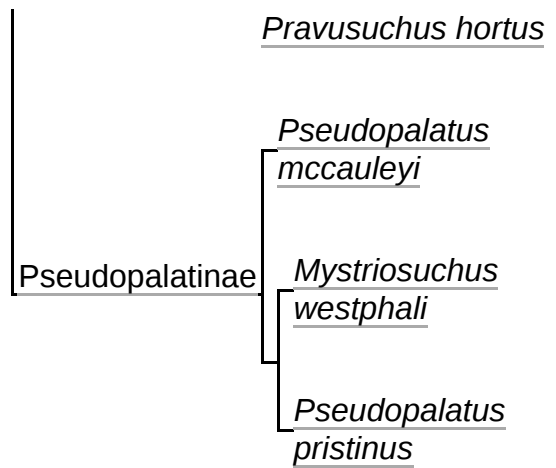
Below is a cladogram from Stocker (2012):^[4]



S. gregorii and *S. adamanensis*
compared to a human

Phytosauria





List of synonyms

Synonyms of *S. adamanensis*:

Machaeroprotopus adamanensis Camp, 1930

Rutiodon adamanensis (Gregory, 1962)

Leptosuchus adamanensis (Long & Murry, 1995)

Synonyms of *S. gregorii*:

Machaeroprotopus gregorii Camp, 1930

Phytosaurus gregorii (Gregory, 1962)

Nicrosaurus gregorii (Gregory, 1962)

Rutiodon gregorii (Ballew 1989)

Leptosuchus gregorii (Irmis, 2005)

Synonyms of *S. lithodendrorum*:

Machaeroprotopus lithodendrorum Camp, 1930

Rutiodon adamanensis (Gregory, 1962)



Placerias and *Smilosuchus*

References

1. Long, R. A., and Murry, P. A. (1995). Late Triassic (Carnian and Norian) tetrapods from the southwestern United States. *New Mexico Museum of Natural History and Science Bulletin* 4:1-254.
2. Irmis, R. B. (2005). The vertebrate fauna of the Upper Triassic Chinle Formation in Northern Arizona. In: Nesbitt, S. J., Parker, W. G. and Irmis, R. B., eds., *Guidebook to the Triassic Formations of the Colorado Plateau in northern Arizona: Geology, Paleontology, and History*. Mesa Southwest Museum, Bulletin No. 9.
3. Michelle R. Stocker (2010). "A new taxon of phytosaur (Archosauria: Pseudosuchia) from the Late Triassic (Norian) Sonsela Member (Chinle Formation) in Arizona, and a critical reevaluation of *Leptosuchus* Case, 1922". *Palaeontology*. **53** (5): 997–1022.
doi:10.1111/j.1475-4983.2010.00983.x (<https://doi.org/10.1111%2Fj.1475-4983.2010.00983.x>).
4. Stocker, M. R. (2012). "A new phytosaur (Archosauriformes, Phytosauria) from the Lot's Wife beds (Sonsela Member) within the Chinle Formation (Upper Triassic) of Petrified Forest National Park, Arizona". *Journal of Vertebrate Paleontology*. **32** (3): 573–586.
doi:10.1080/02724634.2012.649815 (<https://doi.org/10.1080%2F02724634.2012.649815>).
5. "Palaeos Vertebrates: Archosauria: Phytosauridae" (<http://palaeos.com/vertebrates/archosauria/parasuchia2.html#Smilosuchus>). *palaeos.com*. Retrieved 2018-05-13.

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